

Chem12 Solutions : Quiz 2-140

- 1) In a saturated solution of KNO_3 , the rate of crystallization is :
- a) zero
 - b) equal to the rate of dissolving
 - c) less than the rate of dissolving
 - d) greater than the rate of dissolving
- 2) What is the maximum $[\text{Sr}^{2+}]$ that can exist in a solution of 0.10 M Na_2SO_4 ?
- a) 3.4×10^{-7} M b) 3.4×10^{-6} M c) 1.7×10^{-6} M d) 5.8×10^{-4} M
- 3) A student could precipitate silver chloride from a saturated solution of silver chloride by adding
- a) water
 - b) sodium iodide
 - c) sodium nitrate
 - d) sodium chloride
- 4) A saturated solution of Ag_2CO_3 can be made by dissolving 1.27×10^{-4} mol of solid Ag_2CO_3 in 1.0 L of water. Find K_{sp} .
- 5) Predict whether a precipitate will form when 20. mL of 0.0020 M Ag^+ is added to 30. mL of 0.0020 M Cl^- . Show calculations. $K_{\text{sp}} = 1.8 \times 10^{-10}$.
- 6) Calculate the maximum concentration (mol/L) of $\text{Zn}^{2+}(\text{aq})$ ion possible in a solution containing 0.010 M $\text{OH}^{-1}(\text{aq})$ given K_{sp} for $\text{Zn}(\text{OH})_2 = 2.0 \times 10^{-14}$
- 7) The K_{sp} for PbSO_4 is 1.30×10^{-8} . Calculate the mass in grams of PbSO_4 which can be dissolved in 3.00 L of water.

Answers : 1) b, 2) b, 3) d, 4) 8.19×10^{-12} , 5) $K_{\text{trial}} = 9.6 \times 10^{-7} > K_{\text{sp}}$
(precipitate will form), 6) 2.0×10^{-10} , 7) 0.104 g.